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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,660	11/29/2000	Robert E. Zeman	81695N-R	9591

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Patent Legal Staff  
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EXAMINER

MILIA, MARK R

ART UNIT PAPER NUMBER

2622

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/725,660

Applicant(s)

ZEMAN, ROBERT E.

Examiner

Mark R. Milia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-25 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment was received on 11/29/04, and has been entered and made of record. Currently, claims 1-25 are pending.

### ***Drawings***

2. Applicant's amendments to the drawings (Fig. 16) were received on 11/29/04. These drawings are acceptable and overcome the objection to Fig. 16, reference character "450", as cited in the previous Office Action. Therefore the objection is withdrawn.

### ***Specification***

3. Applicant's amendment to the specification received on 11/29/04 to insert the description of Fig. 2, element "120" and Fig. 16, element "440", has overcome the objection to the drawings cited in the previous Office Action dated 9/10/04. Therefore the objection is withdrawn.

***Response to Arguments***

4. Applicant's arguments, see pages 10-11, filed 11/29/04, with respect to the rejection(s) of claim(s) 1-3, 5-8, and 10 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references. Particularly, the Examiner agrees that the "trimming" referred to in Yamamoto does not involve actual cutting of photographic paper. For at least this reason, and in view of newly found prior art, a new ground(s) for rejection is to follow.

Applicant's arguments, see pages 11-12, filed 11/29/04, with respect to the rejection(s) of claim(s) 12, 13, 17, and 20 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references. Particularly, the Examiner agrees that in Miyazaki the cutting instructions are predetermined by the user and that the barcode located on the cutting device is used to define the most appropriate cutter to cut the sheet, not to provide cutting instructions for the image. For at least these reasons, and in view of newly found prior art, a new ground(s) for rejection is to follow.

Applicant's arguments, see page 12, filed 11/29/04, with respect to the rejection(s) of claim(s) 14-15 and 18-19 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references. A new ground(s) for rejection is to follow.

5. Objection to claims 4, 9, 11, and 16 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims is withdrawn in view of the newly discovered reference to U.S. Patent No. 6772661 to Mikkelsen et al.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6772661 to Mikkelsen et al. in view of U.S. Patent No. 5859920 to Daly et al. as cited in Information Disclosure Statement dated April 26, 2004.

Regarding claim 1, Mikkelsen discloses a method of printing an image on a sheet comprising providing digital image data representing a pictorial image to be printed on the sheet in hard copy form (see Fig. 2 and column 4 lines 6-9), providing information for cutting the sheet with the printed pictorial image (see column 2 lines 26-30 and 38-41, column 3 lines 10-25, column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-

57), and employing the digital image data and the information for cutting the sheet to print the pictorial image on the sheet with cutting instructions being printed so as to be embedded in the printed pictorial image, the cutting instructions being dispersed within the pictorial image and not located at locations where cutting is to be made according to the cutting instructions (see Fig. 2, column 2 lines 26-30 and 38-41, column 3 lines 10-25, column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-57).

Mikkelsen does not disclose expressly the information for cutting the sheet being embedded as *invisible* cutting instructions.

Daly discloses providing digital image data representing a pictorial image to be printed on the sheet in hard copy form (see column 5 lines 38-47) and embedding invisible digital information in a pictorial image to be printed (see column 5 lines 8-47).

Regarding claim 12, Mikkelsen discloses an apparatus for printing an image comprising a processor of digital image data representing the pictorial image to be printed on a sheet in hard copy form (see column 2 lines 37-41 and column 4 lines 3-9), a processor for providing digital information for cutting the sheet with the printed pictorial image thereon (see column 3 lines 10-39 and 59-63, column 4 lines 14-22 and 31-37, and column 6 lines 45-57), a merging processor for merging the digital image data representing the pictorial image and the digital information for cutting the sheet, the digital information for cutting the sheet being encoded in a print of the pictorial image (see Fig. 2, column 3 lines 10-39 and 59-63, column 4 lines 14-22 and 31-37, and column 6 lines 45-57), and a printer responsive to the merged digital image data representing the pictorial image and the digital information for cutting the sheet for

printing the pictorial image and the cutting instructions, the cutting instructions being dispersed through the print and not being located at positions in the pictorial image where cuts are to be made according to the cutting instructions (see column 3 lines 10-44 and 59-63, column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 43-45).

Mikkelsen does not disclose expressly digital information encoded so as to be invisible in a print of a pictorial image and merging the invisible encoded information with the digital image to be printed.

Daly discloses digital information encoded so as to be invisible in a print of a pictorial image and merging the invisible encoded information with the digital image to be printed (see column 5 lines 8-47).

Regarding claim 13, Mikkelsen discloses forming a pictorial image having a visible border on a sheet in hard copy form (see Fig. 2) and forming cutting information within the pictorial image, the cutting information being present inward of the border of the pictorial image and the cutting information representing information for cutting the sheet at locations outward of the border (see column 3 lines 10-39 and 59-63, column 4 lines 3-9 and 14-22, and column 6 lines 45-57).

Mikkelsen does not disclose expressly forming invisible information within the pictorial image.

Daly discloses expressly forming invisible information within the pictorial image (see column 5 lines 8-30).

Regarding claim 21, Mikkelsen discloses a method of printing an image on a sheet comprising providing digital image data representing a pictorial image to be

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printed on the sheet in hard copy form, the digital image data further including coded information for cutting the sheet that is embedded within the pictorial image (see Fig. 2, column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-57), and employing the digital image data with the information for cutting the sheet to print the pictorial image on the sheet with cutting instructions being printed so as to be embedded in the printed pictorial image, the cutting instructions being dispersed within the pictorial image and not located at locations where cutting is to be made according to the cutting instructions (see Fig.2, column 3 lines 59-63, column 4 lines 14-22 and 31-37, and column 6 lines 45-57).

Mikkelsen does not disclose expressly employing digital image data with information embedded with invisible instructions encoded within a pictorial image to be printed.

Daly discloses employing digital image data with information embedded with invisible instructions encoded within a pictorial image to be printed (see column 5 lines 8-47).

Regarding claim 23, Mikkelsen discloses a method of printing an image on a sheet comprising printing a pictorial image that includes coded information within the printed image for cutting the sheet, and wherein the cutting information is dispersed within the pictorial image and not located at locations where cutting is to be made according to the cutting information (see Fig. 2, column 3 lines 59-63, column 4 lines 14-22 and 31-37, and column 6 lines 45-57).



Mikkelsen does not disclose expressly printing a pictorial image that includes invisible coded information.

Daly discloses printing a pictorial image that includes invisible coded information (see column 5 lines 8-47).

Mikkelsen & Daly are combinable because they are from the same problem solving area, embedding information in printed images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invisible embedding of information within digital images of Daly with the system of Mikkelsen.

The suggestion/motivation for doing so would have been to improve accuracy in cutting around graphic areas and increase speed and efficiency of cutting around graphic areas (see column 2 lines 22-59 of Mikkelsen). Also, the image is not easily corrupted by content of defects (see column 4 lines 6-10 or Daly).

Therefore, it would have been obvious to combine Daly with Mikkelsen to obtain the invention as specified in claims 1, 12, 13, 21, and 23.

Regarding claim 2, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses wherein information for cutting is placed into digital form that is merged with processed digital image data representing the pictorial image to be printed (see column 4 lines 3-9, 14-22, and 31-37, and column 6 lines 45-57). Daly also discloses merging digital information with processed digital image data representing an image to be printed (see column 5 lines 8-47).

Regarding claim 3, Mikkelsen and Daly disclose the system discussed in claim 2, and Mikkelsen further discloses wherein the information for cutting represents data that defines a center of the pictorial image and a representation of a geometric figure or figures that provide information relative to the locations of cutting points (see column 3 lines 27-58, column 5 line 37-column 6 line 9, and column 6 line 65-column 7 line 27).

Regarding claim 4, Mikkelsen and Daly disclose the system discussed in claim 3, and Mikkelsen further discloses wherein the representation of the geometric figure or figures falls within the pictorial image but defines locations of cutting points external to the pictorial image (see column 3 lines 59-63 and column 4 lines 14-22).

Regarding claim 5, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses a printed image formed on a sheet and including cutting instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a printed image formed on a sheet and including invisible instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see column 5 lines 8-47).

Regarding claim 6, Mikkelsen and Daly disclose the system discussed in claim 3, and Mikkelsen further discloses a printed image formed on a sheet and including cutting instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a printed image formed on a sheet and including invisible instructions embedded as

coded information in a pictorial image and formed by the method of claim 1 (see column 5 lines 8-47).

Regarding claim 7, Mikkelsen and Daly disclose the system discussed in claim 4, and Mikkelsen further discloses a printed image formed on a sheet and including cutting instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a printed image formed on a sheet and including invisible instructions embedded as coded information in a pictorial image and formed by the method of claim 1 (see column 5 lines 8-47).

Regarding claim 8, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses including sensing the embedded cutting instructions and automatically positioning the pictorial image relative to a cutting mechanism and cutting the sheet in accordance with the cutting instructions (see column 3 lines 10-25 and 32-39, and column 6 line 33-column 7 line 36). Daly further discloses embedding invisible instructions (see column 5 lines 8-47).

Regarding claim 9, Mikkelsen and Daly disclose the system discussed in claim 4, and Mikkelsen further discloses including performing a calculation relative to virtual displacements of points on the geometric figure from the center of the image and using that calculation to determine cutting locations outside of the pictorial image and cutting the sheet in accordance with the determined cutting locations (see Fig. 2, column 3 lines 10-58, column 4 lines 3-9, 14-22, and 31-37, column 5 line 37-column 6 line 9, and column 6 line 65-column 7 line 44).

Regarding claim 10, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses wherein the information for cutting represents data that defines a center of the pictorial image and a representation of a geometric figure or figures that provide information relative to the locations of cutting points (see column 3 lines 27-58, column 5 line 37-column 6 line 9, and column 6 line 65-column 7 line 27).

Regarding claim 11, Mikkelsen and Daly disclose the system discussed in claim 10, and Mikkelsen further discloses wherein the representation of the geometric figure or figures falls within the pictorial image but defines locations of cutting points external to the pictorial information (see column 3 lines 59-63 and column 4 lines 14-22).

Regarding claim 20, Mikkelsen and Daly disclose the system discussed in claim 1, and Mikkelsen further discloses a sheet including a plurality of printed images formed on the sheet and at least plural of the pictorial images including cutting instructions embedded as coded information in a respective pictorial image and formed by the method of claim 1 (see Fig. 2, column 3 lines 59-63, column 4 lines 14-22, and column 6 lines 45-57). Daly further discloses pictorial images including invisible instructions embedded as coded information (see column 5 lines 8-47).

Regarding claim 14, Mikkelsen and Daly disclose the system discussed in claim 13, and Mikkelsen further discloses including automatically sensing the cutting information and cutting the sheet in accordance with the cutting instructions (see column 3 lines 10-25 and 32-39 and column 6 line 33-column 7 line 36).

Regarding claim 15, Mikkelsen and Daly disclose the system discussed in claim 14, and Mikkelsen further discloses wherein the cutting instructions define a center of

the pictorial image and a virtual representation of a geometric figure (see column 3 lines 10-39, column 5 line 37-column 6 line 9, and column 7 lines 8-44).

Regarding claim 16, Mikkelsen and Daly disclose the system discussed in claim 15, and Mikkelsen further discloses wherein the cutting instructions define virtual representations of plural geometric figures and calculations are made using such instructions to define locations outward of the border (see Fig. 2, column 3 lines 59-63, column 4 lines 14-22, column 6 lines 45-57, and column 7 lines 37-44).

Regarding claim 17, Mikkelsen and Daly disclose the system discussed in claim 13, and Mikkelsen further discloses wherein plural pictorial images are formed on the sheet in hard copy form and at least plural of the pictorial images have respective cutting information formed within the respective pictorial image (see Fig. 2, column 3 lines 59-63, and column 6 lines 45-57). Daly further discloses invisible information formed within the pictorial image (see column 5 lines 8-47).

Regarding claim 18, Mikkelsen and Daly disclose the system discussed in claim 17, and Mikkelsen further discloses a sheet including a plurality of printed images formed on the sheet and at least plural of the pictorial images include cutting instructions embedded as coded information in a respective pictorial image and formed by the method of claim 17 (see Fig. 2, column 3 lines 59-63, and column 6 lines 45-57). Daly further discloses printed images formed on a sheet including invisible instructions embedded as coded information (see column 5 lines 8-47).

Regarding claim 19, Mikkelsen and Daly disclose the system discussed in claim 18, and Mikkelsen further discloses wherein the cutting instructions are dispersed within

the respective pictorial image and not located at locations where cutting is to be made according to the cutting instructions (see column 4 lines 14-22). Daly further discloses invisible instructions dispersed within the pictorial image (see column 5 lines 8-47).

Regarding claim 22, Mikkelsen and Daly disclose the system discussed in claim 13, and Mikkelsen further discloses including the step of forming cuts in the sheet in accordance with the cutting instructions (see column 6 line 33-column 7 line 44).

Regarding claim 24, Mikkelsen and Daly disclose the system discussed in claim 23, and Mikkelsen further discloses a printed image formed on a sheet and including cutting information embedded as coded information in a pictorial image and formed by the method of claim 23 (see Fig. 2 and column 6 lines 45-57). Daly further discloses a printed image formed on a sheet including invisible information embedded as coded information (see column 5 lines 8-47).

Regarding claim 25, Mikkelsen and Daly disclose the system discussed in claim 23, and Mikkelsen further discloses including the step of forming cuts in the sheet in accordance with the cutting information (see column 6 line 33-column 7 line 44).

Mikkelsen & Daly are combinable because they are from the same problem solving area, embedding information in printed images.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invisible embedding of information in digital images of Daly with the system of Mikkelsen.

The suggestion/motivation for doing so would have been to improve accuracy in cutting around graphic areas and increase speed and efficiency of cutting around

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graphic areas (see column 2 lines 22-59 of Mikkelsen). Also, the image is not easily corrupted by content of defects (see column 4 lines 6-10 or Daly).

Therefore, it would have been obvious to combine Daly with Mikkelsen to obtain the invention as specified in claims 2-11, 14-20, 22, and 24-25.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. To further show state of the art refer to U.S. Patent numbers 4694354 (Tanaka et al.) and 6499403 (Laulanet).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (703) 305-1900. The examiner can normally be reached M-F 8:00am-4:00pm.


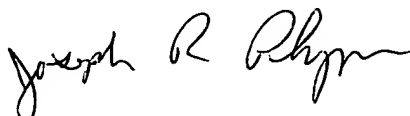
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached at (703) 305-4712. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

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Mark R. Milia  
Examiner  
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